

The Myrmecophilous Species of the *Quedius hirticornis* SHARP,
1889 Complex (Coleoptera, Staphylinidae,
Staphylinini, Quediina)

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Abstract The myrmecophilous species of the *Quedius hirticornis* complex are treated. The Japanese species, *Quedius hirticornis* SHARP, 1889 and *Q. aurorus* HERMAN, 2001, are redescribed, and their bionomical data are presented. A new species, *Quedius myrmex*, is described from two males taken in the Beijing district, People's Republic of China. All the species were found to be associated with ants of the subgenus *Dendrolasius* of the genus *Lasius*, and the following symbiotic hosts were clarified: *Quedius hirticornis* and *Q. aurorus* – *Lasius nipponensis*, *L. spathepus*, *L. capitatus*, *L. morisitai*; *Q. myrmex* – *Lasius nipponensis*. A key to the species of the *Quedius hirticornis* complex is given.

Introduction

SHARP (1889) described *Quedius hirticornis* from a single specimen collected from Mizusawa, Miyagi-ken, northern Honshu, Japan. MARUYAMA & TOYODA (2000) published additional records of this species and reported its myrmecophily in association with ants of the subgenus *Dendrolasius* RUZSKY, 1912, of the genus *Lasius* FABRICIUS, 1804 (Hymenoptera, Formicidae, Formicinae).

In the same paper SHARP also described *Q. laticollis* from a single specimen collected from Sapporo, Hokkaido, Japan, and stated that the species was closely allied to *Q. hirticornis*. The specific epithet “*laticollis*” was preoccupied by another *Quedius* species described by GRAVENHORST (1802), and HERMAN (2001 a) provided a new replacement name for it: *Q. aurorus*. No additional specimen of this species has been reported until now.

Only a few specimens of *Quedius hirticornis* have been collected after the original description, but many additional specimens have been taken from *Dendrolasius*

nests by several colleagues after the report on habitat by MARUYAMA & TOYODA (2000).

The senior author found that those specimens belonged to two species, which are externally very similar to each other and characterised by having numerous long setae on whole body. They were identified as *Q. hirticornis* and *Q. aurorus*, based on the examination of the type specimens.

In addition, we had an opportunity to study a *Quedius* species collected near a nest of *Dendrolasius* ant in the Beijing district, People's Republic of China, which was found to be a new species closely allied to *Q. hirticornis* and *Q. aurorus*.

In this paper, we redescribe *Q. hirticornis* and *Q. aurorus*, describe the new species from mainland China, and present data on their bionomics.

Materials and Methods

The specimens used in the present study were collected mostly under dead leaves accumulated around entrance to *Dendrolasius* ant nest. The following abbreviations are used for the names of ants from which the beetles were collected: *Lasius* (*Dendrolasius*) *nipponensis* FOREL, 1912 (LDN); *L. (D.) spathepus* WHEELER, 1910 (LDS); *L. (D.) capitatus* KUZNETSOV-UGAMSKY, 1927 (LDC); *L. (D.) morisitai* YAMAUCHI, 1979 (LDM).

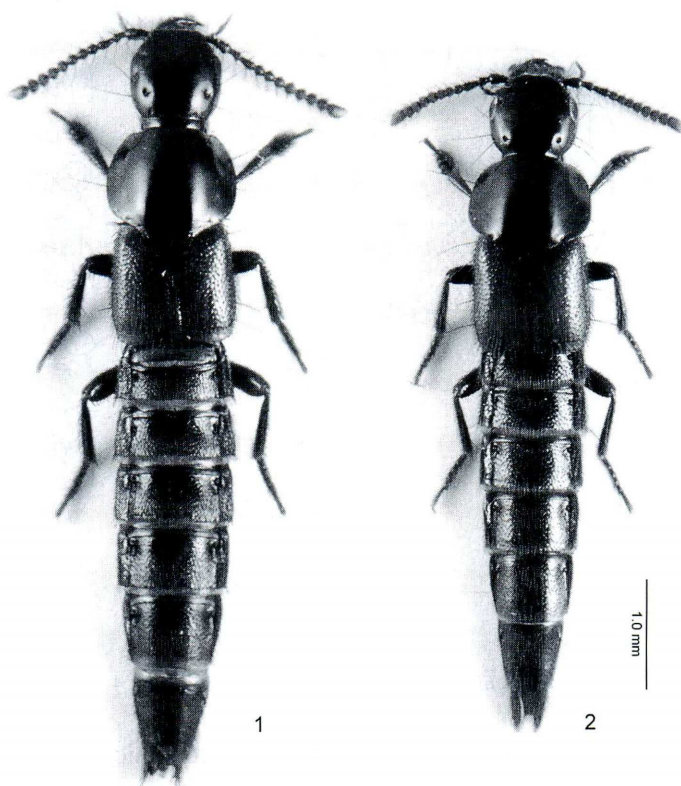
Quedius (Microsaurus) hirticornis SHARP, 1889

(Figs. 1, 3–11)

Quedius hirticornis SHARP, 1889, 31 (original description); HERMAN, 2001 b, 3167 (catalogue).

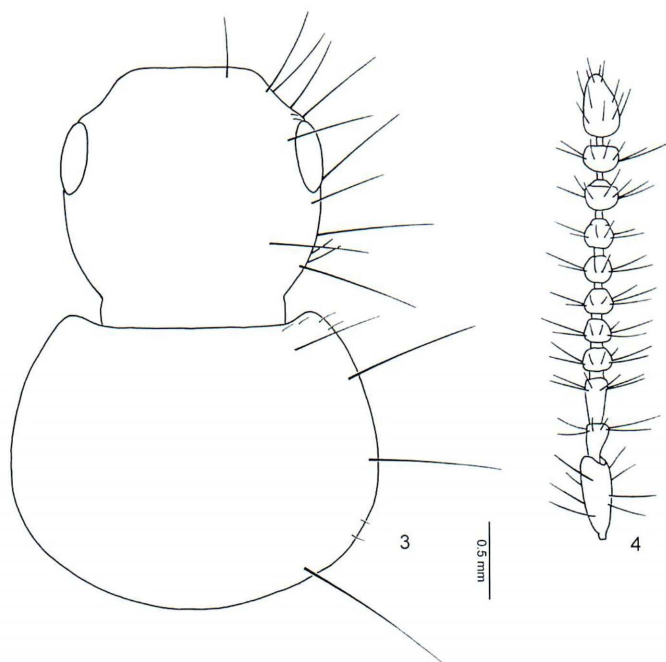
Quedius (Microsaurus) hirticornis: BERNHAUER & SCHUBERT, 1916, 424 (catalogue); SCHEERPELTZ, 1933, 1443 (catalogue); SHIBATA, 1984, 123 (catalogue); MARUYAMA & TOYODA, 2000, 65 (in part, host records).

Redescription. Large species bearing numerous long setae (Fig. 1). Head black with anterior margin of clypeus narrowly reddish brown; pronotum black with lateral portions narrowly paler; elytra pale brown with narrowly paler suture; abdomen slightly iridescent, blackish brown with paler apical margins of tergites; maxillary and labial palpi pale reddish brown; antennae reddish brown with basal three segments slightly darker; legs reddish brown with apices of tibiae and tarsi paler. Head (Fig. 3) rounded, slightly wider than long (ratio 1.06–1.21), slightly narrowed posteriad behind eyes, with posterior angles entirely obsolete; eyes small and convex, much shorter than tempora (ratio 0.65); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated slightly closer to posterior margin of head than to posteriomedial margin of eye, two punctures between it and posterior margin of head, situated close to posterior margin of head; one additional setiferous puncture at posteriomedial margin of eye, separated from it by distance slightly larger than diameter of puncture; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of



Figs. 1-2. Facies of *Quedius* spp. — 1, *Quedius hirticornis*, male; 2, *Q. aurorus*, male.

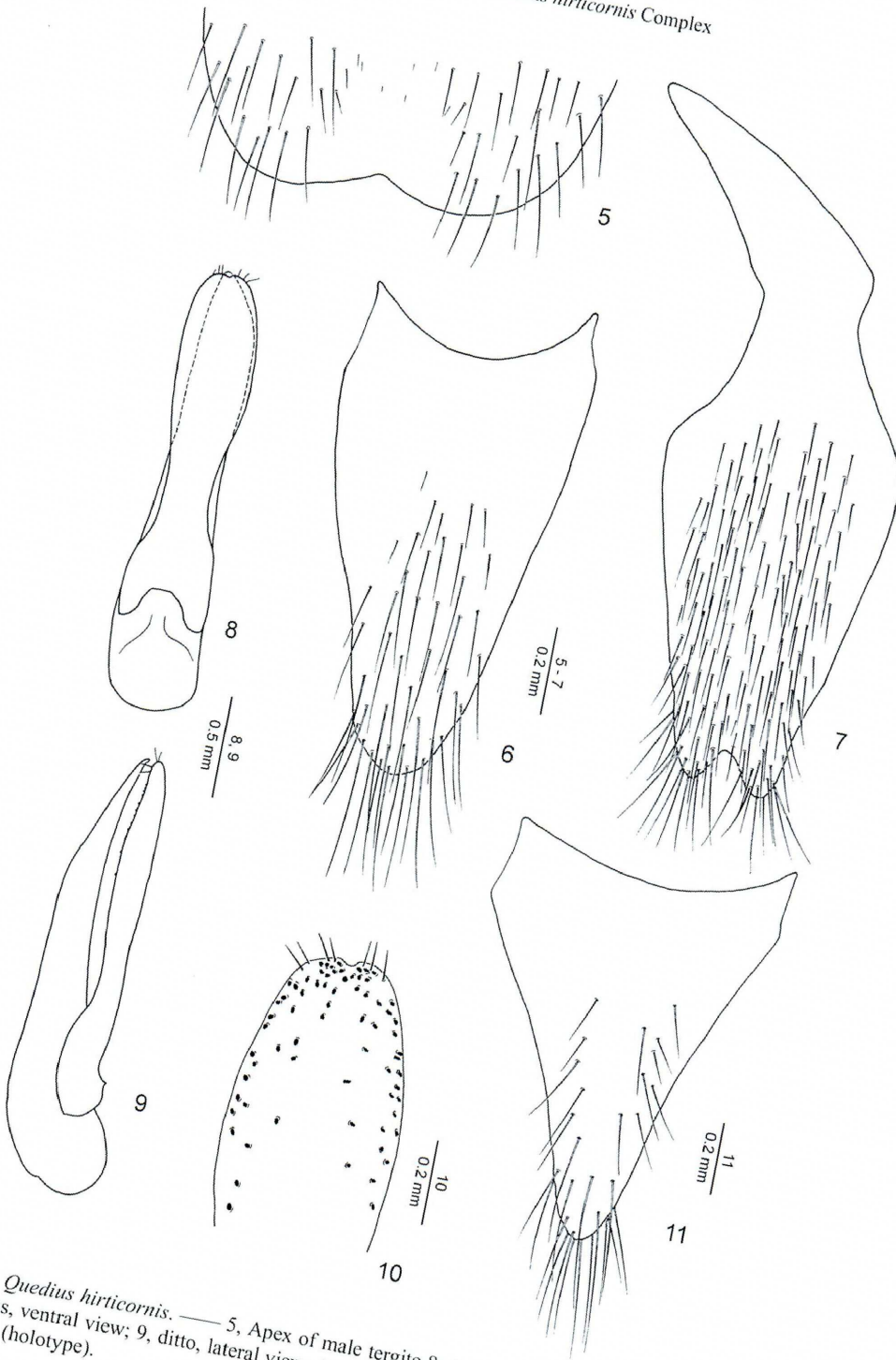
head with fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Right mandible with two large teeth at middle of which apical one oriented apicad, basal one oriented mediad and truncate apically; left mandible with two teeth, oriented apicad. Antennae (Fig. 4) short, scarcely widened toward apex, with segments 4-10 moniliform and each wider than long; surface bearing very long setae, which are 1.5-1.8 times as long as diameter of each segment, and some shorter setae. Pronotum (Fig. 3) wider than long (ratio 1.28-1.30), widest behind middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex with lateral portions explanate; dorsal rows of punctures entirely absent; sublateral rows each with only one puncture, situated before level of large lateral puncture; microsculpture similar to that on head but finer and denser. Scutellum impunctate, with very fine and dense microsculpture of transverse waves. Elytra rather short, markedly narrower than pronotum, scarcely widened posteriad, at suture slightly shorter, at sides somewhat longer than pronotum at midline (ratio 1.35-1.39); puncturation and setae moderately sparse;



Figs. 3–4. *Quedius hirticornis*. — 3, Head and pronotum; 4, right antenna.

setae black; surface somewhat rugosely punctured, without microsculpture. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; puncturation finely rugose, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; setae black; surface between punctures with fine and dense microsculpture of transverse waves.

Male. First four segments of front tarsus moderately dilated, sub-bilobed, each densely covered with modified, long and pale setae ventrally; segment 2 as wide as apex of tibia; segment 4 slightly narrower than preceding segments. Sternite 8 (Fig. 5) with three long setae on each side, with shallow, subarcuate medioapical emargination; small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 6) elongate, narrowly triangular, arcuate apically, with numerous setae in mesal area to apical margin; sternite 9 (Fig. 7) with narrow and elongate basal portion, with apical portion deeply emarginate apically, densely covered with setae, those in mesal area characteristically arranged into two longitudinal groups jointed apically. Aedoeagus (Figs. 8–10) large; median lobe gently narrowed anteriorly, subparallel-sided around apical half to third, with apex narrowly arcuate; paramere quite large, paddle-shaped, anteriorly much wider than median lobe, with medioapical margin slightly emarginate, with two setae on each side of emargination, one or two setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae absent around midline; internal sac without larger sclerotized structures.



Figs. 5-11. *Quedius hirticornis*. — 5, Apex of male tergite 8; 6, male tergite 10; 7, male sternite 9; 8, aedeagus, ventral view; 9, ditto, lateral view; 10, apical portion of paramere, dorsal view; 11, female tergite 10 (holotype).

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 narrower than apex of tibia. Genital segment with tergite 10 (Fig. 11) narrowly triangular, narrowly arcuate apically, asetose around midline.

Length 11.3–11.8 mm.

Type material. Holotype: ♀, “♀/*Quedius hirticornis*/Type D.S. (written on board which specimen is glued on)// Type (red round curator label)// Kannari/18.10. '80. (=18-X-1880)// G. Lewis. 1910–320”.

Holotype in the Natural History Museum, London (NHM).

Other material. JAPAN: [HOKKAIDO]: 1♂, Taihei, Maruseppu-chô, 17-VI-2000, Y. KIDA leg. (LDN); 1♀, Ôsawa-guchi, Nopporo-shinrin-kôen, Ebetsu-shi, 13-VI-1999, M. MARUYAMA leg. (LDN); 1♂, Shibumbetsu, Nopporo-shinrin-kôen, Ebetsu-shi, 31-V-1999, M. MARUYAMA leg. (LDS); 2♀♀, 5 exs., Tomambetsu, Nopporo-shinrin-kôen, Ebetsu-shi, 4-V-2000, M. MARUYAMA leg. (LDS); [HONSHU]: 1♀, Aobayama, Sendai-shi, Miyagi-ken, 22-IX-2001, M. MARUYAMA leg. (LDC); 1♂, Yahiko-san, Yahiko-mura, Nishikambara-gun, Niigata-ken, 27-V-1990, M. NISHIKAWA leg. (LDN); 1♀, Sakura-yama, Onishi-machi, Tano-gun, Gumma-ken, 22-V-1999, K. ARAI leg. (LDN); 1♂, 1♀, Shio-yama, Ranzan-machi, Hiki-gun, Saitama-ken, 27-VIII-1997, K. ARAI leg. (LDS); 1♂, 1♀, Shiroishi-tôge, Higashichichibu-mura, Chichibu-gun, Saitama-ken, 9-V-1999, K. ARAI leg. (LDS); 3♂♂, 1♀, same data but, 23-V-1999; 1♀, ditto, 30-V-1999; 1♀, ditto, 20-VI-1999; 1♀, ditto, 26-IX-1999; 1♂, ditto, 19-VIII-2001; 1♀, Ôno-tôge, Yokoze-machi, Chichibu-gun, Saitama-ken, 8-VIII-2000, K. ARAI leg. (LDN); 1♂, Zushi-machi 771, Machida-shi, Tokyo, 5-VI-2003, Y. SHIBATA leg. (LDS); 1♀, same data but, 9-VI-2003; 1♂, Ogamigô, Shôkawa-mura, Ôno-gun, Gifu-ken, 6-VIII-1998, M. MARUYAMA leg. (LDN); 1♂, Kentô-san, Shôkawa-mura, Ôno-gun, Gifu-ken, 11-VIII-2003, K. KINOMURA leg. (LDN); 1♂, same data but, 27-VI-2004; 2♂♂, 1♀, Isshiki, Shôkawa-mura, Ôno-gun, Gifu-ken, 6-VIII-2003, K. KINOMURA leg. (LDS); 12 exs., same data but, 7-IX-2003; 2♂♂, same data but, 27-VI-2004; 3 exs., same data but, 7-IX-2003 (LDM); 1 ex., same data but, 22-V-2004 (LDC); 1♂, same data but, 27-VII-2004, M. MARUYAMA leg.; 1♀, Bijo-kôgen, Kuguno-chô, Ôno-gun, Gifu-ken, 5-VIII-2003, K. KINOMURA leg. (LDN); 2 exs., same data but, 23-IX-2003; 1♂, 1♀, Nakao, Kamitakara-mura, Yoshiki-gun, Gifu-ken, 4-VIII-2003, K. KINOMURA leg. (LDC); 1♂, 1♀, Morimo, Kamioka-chô, Yoshiki-gun, Gifu-ken, 27-VII-2003, K. KINOMURA leg. (LDN); 1♀, Imamura, Neo-mura, Motosu-gun, Gifu-ken, 31-VII-2003, K. KINOMURA leg. (LDS); 1 ex., same data but, 27-IX-2003; 1♀, Nukata-chô, Nukata-gun, Aichi-ken, 27-IX-2000, Y. HIRANO leg.

Geographical distribution. *Quedius hirticornis* is at present known only from Japan (Hokkaido, Honshu).

Symbiotic hosts. *Lasius (Dendrolasius) nipponensis*, *L. (D.) spathepus*, *L. (D.) capitatus*, *L. (D.) morisitai*. (New host records from *L. (D.) capitatus* and *L. (D.) morisitai*.)

Bionomics. Mr. K. KINOMURA (pers. comm.) observed four times an adult *Q.*

hirticornis (from Gifu-ken) to prey upon worker ant of *Lasius* (*Dendrolasius*) *nipponensis* in the laboratory; the beetle ate only abdomen of the ant.

On 4th May 2000, MARUYAMA excavated a nest of *L. (D.) spathepus*, which still hibernated under the snow, in Ebetsu-shi, Hokkaido. Seven individuals of *Q. hirticornis* were found in the deepest portion of the nest. Nests of *Dendrolasius* ants are most probably hibernacula of this species.

This species is sometimes collected together with *Q. aurorus* in the same ant nest.

***Quedius (Microsaurus) aurorus* HERMAN, 2001**

(Figs. 2, 12–20)

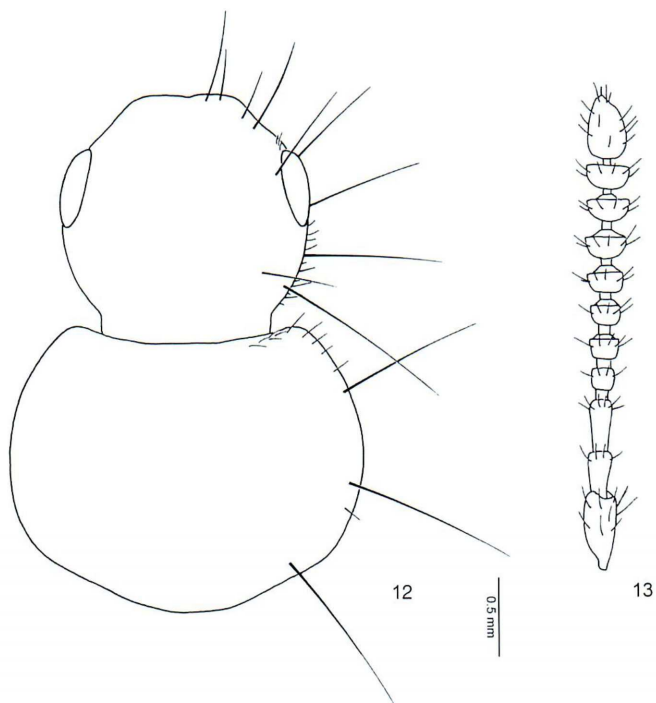
Quedius laticollis SHARP, 1889, 31 (original description, preoccupied by GRAVENHORST, 1802, 173); HERMAN, 2001 b, 3183 (catalogue).

Quedius (Microsaurus) laticollis: BERNHAUER & SCHUBERT, 1916, 424 (catalogue); SCHEERPELTZ, 1933, 1446 (catalogue); SHIBATA, 1984, 125 (catalogue).

“*Quedius hirticornis*”: SHIBATA, 1985, 309, pl. 54, fig. 13 (misidentification); MARUYAMA & TOYODA, 2000, 65 (misidentification, in part, host records).

Quedius aurorus HERMAN, 2001 a, 49 (replacement name for *laticollis* SHARP); HERMAN, 2001 b, 3108 (catalogue).

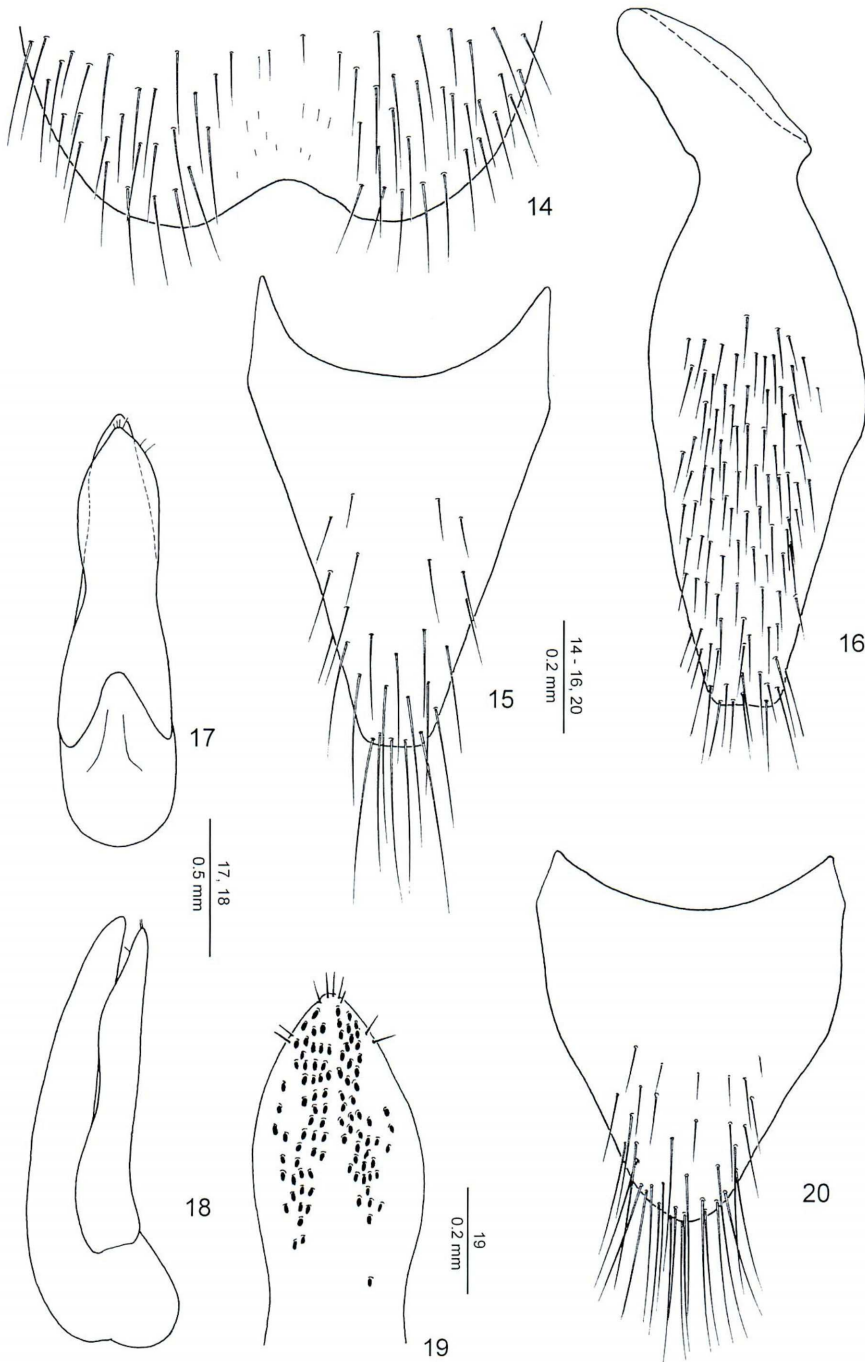
Redescription. Large species bearing numerous setae (Fig. 2). Head black with anterior margin of clypeus narrowly reddish brown; pronotum black with lateral portions narrowly paler; elytra pale brown with narrowly paler suture; abdomen slightly iridescent, blackish brown with paler apical margins of tergites; maxillary and labial palpi pale reddish brown; antennae reddish brown with basal three segments slightly darker; legs reddish brown with apices of tibiae and tarsi paler. Head (Fig. 12) rounded, slightly wider than long (ratio 1.16–1.19), markedly narrowed posteriad behind eyes, with posterior angles entirely obsolete; eyes moderate in size and convex, somewhat shorter than tempora (ratio 0.84); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated slightly closer to posterior margin of head than to posteriomedial margin of eye, two punctures between it and posterior margin of head, situated close to posterior margin of head; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of head with fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Right mandible with one tooth at middle, oriented mediad; left mandible with two small teeth, of which apical one is gently oriented mediad. Antennae (Fig. 13) short, gently widened toward apex, with segments 6–10 each wider than long; surface bearing long setae, which are slightly shorter than diameter of each segment, and some shorter setae. Pronotum (Fig. 12) wider than long (ratio 1.29–1.30), widest at about middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex with lateral portions explanate; dorsal and sublateral rows of punctures entirely absent; microsculpture similar to that on head but finer and denser. Scutellum impunctate, with very fine and dense



Figs. 12–13. *Quedius aurorus*. — 12, Head and pronotum; 13, right antenna.

microsculpture of transverse waves. Elytra moderately long, markedly narrower than pronotum, scarcely widened posteriad, at suture slightly shorter, at sides somewhat longer than pronotum at midline (ratio 1.33–1.44); puncturation and setae moderately sparse; setae black; surface somewhat rugosely punctured, without microsculpture. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; puncturation finely rugose, becoming sparser toward apical margin of each tergite and in general toward apex of abdomen; setae black; surface between punctures with excessively fine and dense microsculpture of transverse waves.

Male. First four segments of front tarsus moderately dilated, sub-bilobed, each densely covered with modified, long and pale setae ventrally; segment 2 widest; segment 4 narrower than preceding segments. Sternite 8 (Fig. 14) with three long setae on each side, with shallow, subarcuate medioapical emargination; small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 15) subtriangular, slightly truncate apically, with numerous setae in mesal area to apical margin; sternite 9 (Fig. 16) with narrow and short basal portion, with apical portion narrowly truncate apically, densely covered with setae. Aedoeagus (Figs. 17–19) large; median lobe gently narrowed anteriorly, with apex narrowly arcuate; paramere quite large, wide, anteriorly much wider than median lobe, from narrowest point dilated an-



Figs. 14–20. *Quedius aurorus*. — 14, Apex of male tergite 8; 15, male tergite 10; 16, male sternite 9; 17, aedeagus, ventral view; 18, ditto, lateral view; 19, apical portion of paramere, dorsal view; 20, female tergite 10. Figures of male body parts are based on holotype.

teriad in straight line and then abruptly narrowed into apical portion with pointed apex, with four setae at apex, two setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae absent around midline and along lateral margins; internal sac without larger sclerotized structures.

Female. First four segments of front tarsus similar to those of male, but less dilated; segment 2 slightly narrower than apex of tibia. Genital segment with tergite 10 (Fig. 20) subtriangular, narrowly arcuate apically, with numerous setae at apex.

Type material. Holotype: ♂, “*Quedius laticollis*/Type D.S. (written on board which specimen is glued on)//Type (red round curator label)//Sapporo./5.VIII.–16.VIII.80//G. Lewis. 1910–320”.

Holotype in NHM.

Other material. JAPAN: [HONSHU]: 1 ♂, Aobayama, Sendai-shi, Miyagi-ken, 22–IX–2001, M. MARUYAMA leg. (LDC); 1 ♀, Shimokomoriya, Mōka-shi, Tochigi-ken, 2–V–2004, M. MARUYAMA leg. (LDN); 1 ♂, Hashidate, Chichibu-shi, Saitama-ken, 30–VII–2000, K. ARAI leg. (LDN); 1 ♂, Nakano, Shōwa-machi, Kitakatsushika-gun, Saitama-ken, 14–IV–2003, H. KAMEZAWA leg. (LDN); 1 ♂, same data but, 4–V–2003; 1 ♂, Daiyū-zan, Kanagawa-ken, 15–V–1983, M. NISHIKAWA leg. (used in the colour plate of SHIBATA, 1985); 1 ♀, Isshiki, Shōkawa-mura, Ōno-gun, Gifu-ken, 12–VII–2003, K. KINOMURA leg. (LDM); 1 ♂, Kentō-san, Shōkawa-mura, Ōno-gun, Gifu-ken, 10–VIII–2003, K. KINOMURA (LDN); 1 ex., same data but, 27–IX–2003; 1 ♂, same data but, 27–VI–2004, M. MARUYAMA leg. (LDN); 1 ex., Sandani, Shōkawa-mura, Ōno-gun, Gifu-ken, 13–VI–2004, K. KINOMURA leg. (LDS); [KYUSHU]: 1 ♀, Sobosan, Ōita-ken, 4–VIII–1954, K. OHBA leg.

Length 10.1–10.4 mm.

Geographical distribution. *Quedius aurorus* is at present known only from Japan (Hokkaido, Honshu, Kyushu).

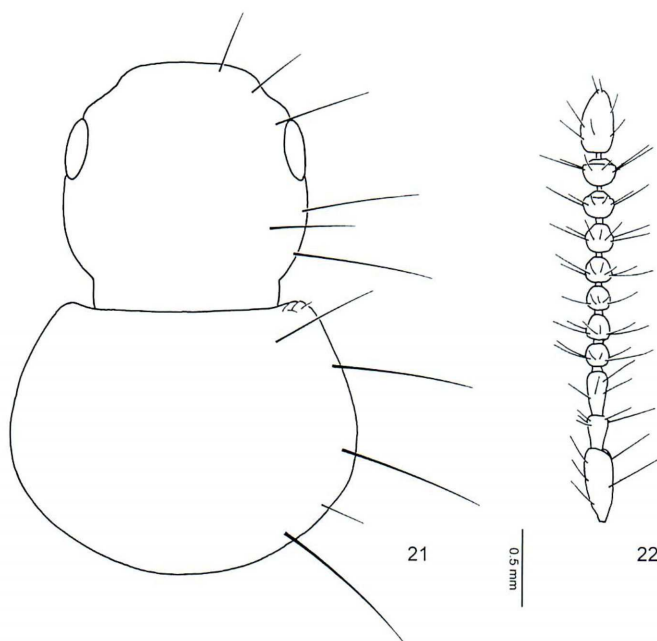
Symbiotic hosts. *Lasius* (*Dendrolasius*) *nipponensis*, *L. (D.) spathepus*, *L. (D.) capitatus*, *L. (D.) morisitai*.

Bionomics. Dr. K. MURASE (pers. comm.) observed in the laboratory an adult *Q. aurorus* (from Tochigi-ken) to prey upon other myrmecophilous staphylinids associated with *Dendrolasius* ants, namely *Homoeusa* spp. and *Pella* spp. The beetle also consumed a freshly killed host ant, but it never attacked living ants.

Quedius (Microsaurus) myrmex sp. nov.

(Figs. 21–28)

Description. Moderately large species, bearing numerous long setae. Head black; pronotum black with lateral portions gradually, inconspicuously paler; elytra reddish-brown with slightly darker suture; abdomen piceous black with inconspicuously paler apical margins of tergites, slightly iridescent; maxillary and labial palpi reddish brown; antennae reddish brown with first segment indistinctly darker; legs dark brown to brownish piceous, with apices of tibiae and tarsi slightly paler. Head (Fig. 21)



Figs. 21–22. *Quedius myrmex*. — 3, Head and pronotum (most setae are missing in the type series, and only major setae are indicated); 4, right antenna.

rounded quadrangular in shape, slightly wider than long (ratio 1.17), almost parallel-sided behind eyes, with posterior angles entirely obsolete; eyes small, moderately convex, considerably shorter than tempora (ratio 0.58); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture shifted posteriad, situated about midway between posteriomedial margin of eye and posterior margin of head, two punctures between it and posterior margin of head, situated close to posterior margin of head (see *Comments*); one additional setiferous puncture at postero-medial margin of eye, separated from it by distance slightly larger than diameter of puncture; temporal puncture shifted posteriad, situated distinctly closer to posterior margin of head than to posterior margin of eye; surface of head with very fine and dense, superficial microsculpture of transverse waves, with some intermixed microscopical punctures. Mandibles with teeth developed in a similar way as described for *Q. hirticornis*. Antennae (Fig. 22) relatively short, only slightly widened toward apex, segment 3 scarcely longer than segment 2, segments 4–6 moniliform, segments 7–10 gradually becoming more distinctly wider than long, markedly transverse, last segment acuminate, about as long as two preceding segments combined; setation of antennal segments similar to that described for *Q. hirticornis*. Pronotum (Fig. 21) distinctly wider than long (ratio 1.27), widest behind middle, slightly narrowed both anteriad and posteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions explanate; dorsal rows of punctures entirely missing;

sublateral rows each with only one puncture, situated before level of large lateral puncture; microsculpture similar to that on head but even finer and denser. Scutellum impunctate, with extremely fine, dense microsculpture of transverse striae. Elytra relatively short, at base markedly narrower than pronotum at widest point, scarcely widened posteriad, at suture slightly shorter (0.89), at sides slightly longer (ratio 1.10) than pronotum at midline; punctation and pubescence moderately dense, transverse interspaces between punctures about three times as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture, but with microscopical rugae on basal third of each elytron. Wings well developed, functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites finer and denser than that on elytra, becoming slightly sparser toward apical margin of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with excessively fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus moderately dilated, sub-bilobed, each densely covered with modified, long pale setae ventrally; segment 2 about as wide as apex of tibia; segment 4 slightly narrower than preceding segments. Sternite 8 (Fig. 23) with two long setae on each side; with shallow, subarcuate medioapical emargination, small triangular area before emargination flattened and smooth. Genital segment with tergite 10 (Fig. 24) similar to that of *Q. hirticornis*, but somewhat shorter and wider; sternite 9 (Fig. 25) shorter and wider, less deeply emarginate apically and with setae evenly dispersed. Aedoeagus (Figs. 26, 27) relatively small and short; median lobe with apical portion wide, subparallel-sided, narrowed into narrowly arcuate apex. Paramere (Fig. 28) large, wide, with deep and narrow medioapical emargination, entirely covering apical portion of median lobe, with apex not quite reaching apex of median lobe; two setae at each side of emargination, two similar setae at each lateral margin below apex; underside of paramere with sensory setae not numerous, situated as in Fig. 28; internal sac without larger sclerotized structures.

Female. Not known.

Length 8.0–8.2 mm.

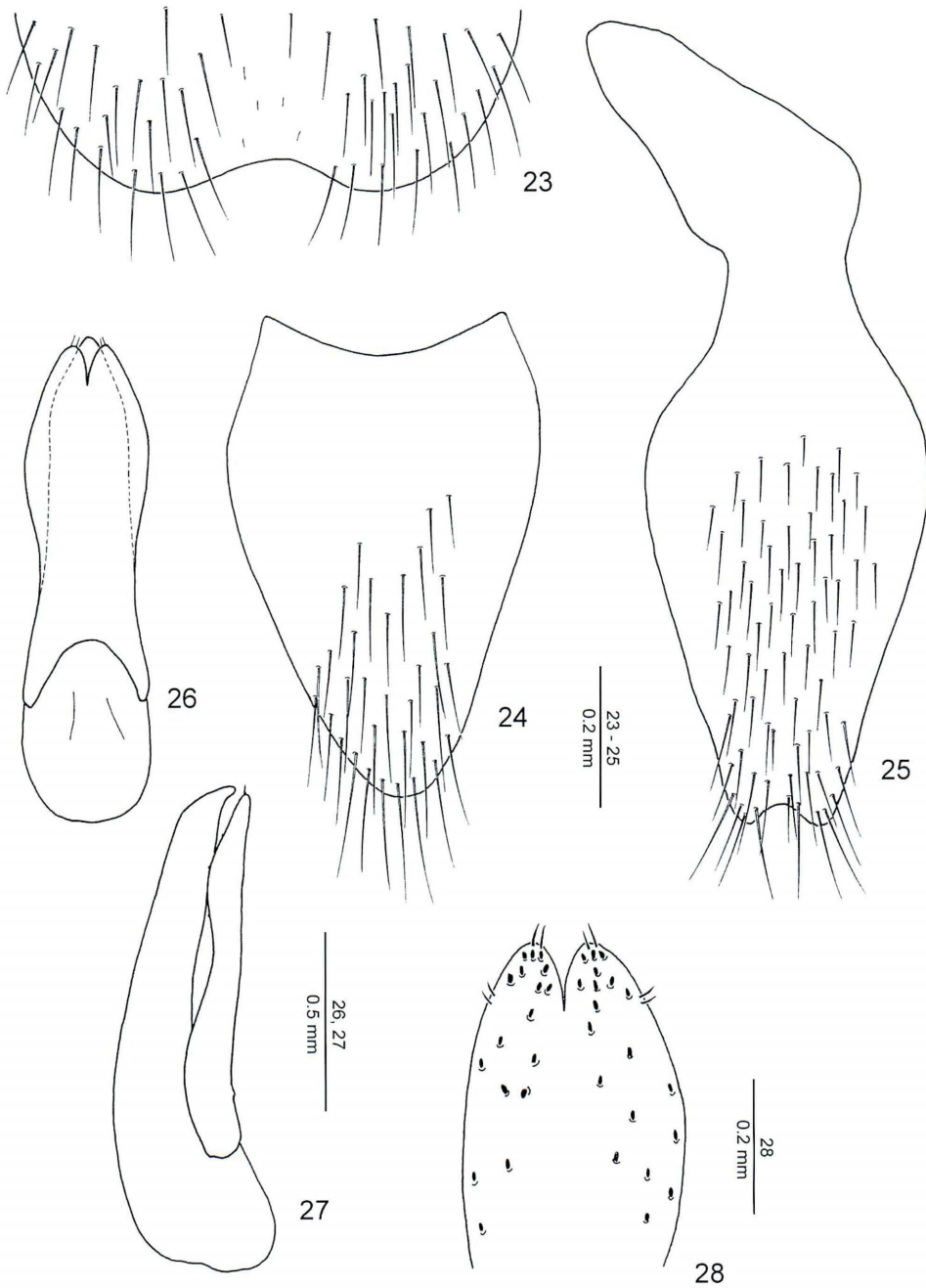
Type material. Holotype (male) and paratype (male): China: "CHINA. BEIJING distr/Yan Shan, Dongling Mts./ (1400 m) Xiaolongmen, / 15–16. vi. 2001 / Hlaváč & Cooter lgt." (LDN).

Holotype in the collection of Institute of Zoology, Academia Sinica, Beijing China. Paratype temporarily in the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséum d'Histoire naturelle, Geneva, Switzerland).

Geographical distribution. *Quedius myrmex* is at present known only from the type locality in the Beijing district, China.

Symbiotic hosts. *Lasius (Dendrolasius) nipponensis*.

Bionomics. The two specimens of the original series were taken in a mixed temperate forest by sifting various debris around bases of trees with colonies of *Lasius (Dendrolasius) nipponensis* (HLAVÁČ, pers. comm.).



Figs. 23–28. *Quedius myrmex*. — 23, Apex of male tergite 8; 24, male tergite 10; 25, male sternite 9; 26, aedoeagus, ventral view; 27, ditto, lateral view; 28, apical portion of paramere, dorsal view. Figures are based on holotype.

Recognition and comments. *Quedius myrmex* may be easily distinguished from both *Q. hirticornis* and *Q. aurorus*. In addition to the distinctly different aedoeagus, mainly by the smaller size, by the slightly different position of the posterior frontal puncture on the head, and by the presence of microscopical rugae on basal third of each elytron. The two punctures near the posterior margin of the head are somewhat instable. One is missing on the left side both in the holotype and paratype and the right one is shifted quite close to the posterior frontal puncture in the holotype.

Etymology. The specific epithet is the Greek noun *μυρμηξ* (ant). It reflects the apparent myrmecophily of the species.

Key to the Species of *Quedius hirticornis* Complex

1. Antennal long setae slightly shorter than diameter of each segment; pronotum with sublateral rows without puncture; male sternite 9 apically truncate . . . *Q. aurorus*
Distribution: Japan (Hokkaido, Honshu, Kyushu).
- Antennal long setae 1.5–1.8 times as long as diameter of each segment; pronotum with sublateral rows each with one puncture; male sternite 9 apically emarginated 2
2. Larger species with body length 11.3–11.8 mm; paramere with small medioapical emargination, each elytron without microscopical rugae on basal third
. *Q. hirticornis*
Distribution: Japan (Hokkaido, Honshu).
- Smaller species with body length 8.0–8.2 mm; paramere with deep and narrow medioapical emargination, each elytron with microscopical rugae on basal third
. *Q. myrmex*
Distribution: China (Beijing district).

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要 約

丸山 宗利・Aleš SMETANA：ツノヒゲツヤムネハネカクシ複合群の好蟻性種。—— 日本産種の

ツノヒゲツヤムネハネカクシ *Q. hirticornis* およびエゾツヤムネハネカクシ *Q. aurorus* を生態学的情報とともに再記載し、中国の北京近郊で採集された2雄の標本をもとに *Q. myrmex* を記載した。本複合群の全種がケアリ属クサアリ亜属のアリを寄主とし、以下の寄主関係が判明した：*Q. hirticornis*・*Q. aurorus*—クロクサアリ、クサアリモドキ、フシボソクサアリ、モリシタケアリ；*Q. myrmex*—クロクサアリ。また、本複合群の種への検索表を附した。

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